IN THE SPECIFICATION

Please amend paragraph [0003] as follows:

[0003]

[[Of]] In conventional gas generators, there are available a two-cylinder type gas generator which is provided with a central space corresponding to an ignition chamber of gas generants and an annular space corresponding to a combustion/filter chamber which is concentrically formed at the external part and in which gas is burnt and cooled or slag is collected. This type of gas generator includes that disclosed in ~~Patent Document 1~~ Japanese Published Unexamined Patent Application No. 9-207705 which is shown as an example in FIG. 4. This drawing shows an approximate half of the radial cross section of a short cylindrical gas generator. In this gas generator, a housing structure obtained by placing a two-cylinder-structured upper vessel 51 with a double short-tube-structured lower vessel 54 and subjecting them to friction welding (housing for the gas generator) is used as an ignition chamber P at the central space and used as a combustion chamber G and a filter chamber P at the annular space in the periphery.

Please amend paragraph [0005] as follows:

[0005]

Further, ring-shaped cushion members 58 and 59 are set respectively [[set]] on an upper face 70 and a lower face 71 of the layer of the gas generants 57. In addition, seal members 61 and 62 are respectively set on the upper face and the lower face of the cooling/slag-collecting member 60. Moreover, an aluminum foil member 64 for closing a gas discharging orifice 53a and an aluminum foil member 65 for closing a burning orifice 52a are attached. The above-described constitution makes it possible to provide a gas generator

which can sufficiently withstand a rise in inner pressure due to gas generated inside the gas generation chamber G.

~~Patent Document 1: Japanese Published Unexamined Patent Application No. 9-207705~~

Please amend paragraph [0006] as follows:

[0006]

However, as shown in FIG. 4, this kind of two-cylinder type gas generator is larger in the number of parts for constituting the gas generator and is complicated in structure. Therefore, some limitations are imposed on reducing the manufacturing cost thereof, while maintaining the safety of the gas generator.

Please amend paragraph [0007] as follows:

[0007]

An object of the present invention is to provide a gas generator which can be simplified in terms of the structure thereof and also maintain higher safety even when the number of components is reduced.

Please amend paragraph [0008] as follows:

[0008]

The present invention has the following several features for attaining the object of the invention. In the present invention, the following main features are provided solely or in combination with other parts, whenever necessary.

Please amend paragraph [0010] as follows:

[0010]

Either or both of the initiator shell and the closure shell constituting the housing are provided with semi-spherical or semi-oval end plate portions and cylindrical portions having a diameter D formed continuously from the end plate portions. The ratio of H/D which is a ratio of the bottom distance H between the end plate portion of the initiator shell and that of the closure shell to the diameter D of the cylindrical portions is in the range from 0.4 to 1.3.

The above-described constitution makes it possible to reduce the number of parts and simplify the structure, thereby making the gas generator smaller in size and significantly reducing the manufacturing cost thereof. Further, even if the gas generator is small in the number of parts and simplified in structure, the housing is prevented from deformation resulting from a rise in the pressure inside the housing due to gas generated through burning of the gas generants inside the combustion chamber. Further, a plurality of gas discharge openings are provided, by which a high-temperature gas discharged from the combustion chamber can be stably [[be]] supplied.

Please amend paragraph [0011] as follows:

[0011]

A/At, which is a ratio of the total sum A of surface areas of the gas generants to the total sum At of opening areas of the gas discharge openings is in the range from 1300 to 2000.

Where the ratio of A/At is out of the above-noted range, gas generants to be used may hardly be burnt. Further, where the ratio is in excess of 2000, the gas generator must be

increased in strength, resulting in an increase in cost and weight, which is unfavorable in manufacturing the gas generator or in other aspects.

Please amend paragraph [0012] as follows:

[0012]

It is preferable that the gas discharge openings are available in two or more opening diameters.

It is preferable that the gas discharge openings are disposed in a single array or in a plurality of arrays.

It is preferable that the gas discharge openings are available in two different opening diameters (small and large), disposed in two arrays in a zigzag form, and D1/D2, which is a ratio of a small opening diameter D1 of the gas discharge opening to a large opening diameter D2 of the gas discharge opening is in the range from 0.1 to 1.0.

It is preferable that [[a]] the distance between gas discharge openings d in an axial direction of the housing is related to the small opening diameter D1 and the large opening diameter D2 as follows where the gas discharge openings are disposed in two arrays in a zigzag form.

$$d \geq (D1 + D2) / 2$$

Please amend paragraph [0013] as follows:

[0013]

It is preferable that the gas discharge openings are closed by a rupture member and the rupture member is a metal plate. The metal includes aluminum, steel or stainless steel.

It is preferable that the rupture member thickness is in the range from 0.01mm to 0.3mm ~~in thickness~~.

It is preferable that the rupture member is provided so as to be different in strength depending on an opening diameter of the gas discharge openings and the strength of the rupture member is increased with a decrease in diameter of the gas discharge openings.

Please amend paragraph [0015] as follows:

[0015]

Hereinafter, an explanation will be made for embodiments of the gas generator in the present invention with reference to the drawings.

FIG. 1 is a cross-sectional view of the gas generator 30, which is an example of the gas generator of the present invention. In FIG. 1, the gas generator 30 is used to inflate and deploy an airbag and is provided with a housing 3, gas generants 4, a filter member 6 and an igniter 7.

Please amend paragraph [0018] as follows:

[0018]

Where the above-described ratio of H/D is less than 0.4, the gas generator may not be assembled due to structural features. Where it exceeds 1.3, it approaches the cylindrical-type gas generators in structure. Therefore, setting the ratio within the above-described range can make the gas generator small in size and also provide strength sufficient [in]] for withstanding the pressure due to the gas generated inside the combustion chamber 5.

Please amend paragraph [0023] as follows:

[0023]

In addition, as shown in FIG. 1, these two different-sized (small and large) gas discharge openings 8a and 8b are closed by a band-~~form~~ shaped tape rupture member 11

which is made of band-~~form~~ shaped aluminum, steel, stainless steel, etc., and attached inside a cylindrical portion 9, by which [[a]] the space inside the combustion chamber 5 is sealed. The height h of the cylindrical portion 9 is preferably 5mm or more, more preferably in the range from 5mm to 30mm and in particular preferably from 10mm to 30mm. Therefore, a band-~~form~~ shaped tape can be used as the rupture member 11 and also the rupture member 11 can be easily and securely attached thereto.

Please amend paragraph [0024] as follows:

[0024]

Therefore, the rupture member 11 is preferably in the range from 0.01mm to 0.3mm in thickness. Further, [[it]] such is provided so as to be different in strength depending on the diameter of the two different-sized (small and large) gas discharge openings 8a and 8b. More specifically, it is preferable that the rupture member 11 is increased in strength with a decrease in diameter of the gas discharge openings.

Please amend paragraph [0027] as follows:

[0027]

As shown in FIG. 3, d1/d2 which is a ratio of the short axis d1 of the end plate portion 10 to the long axis d2 is preferably in a range from 1 to 0.02 and more preferably from 1 to 0.1. Where the ratio is in the above range, the gas generator makes it possible to sufficiently withstand an inner pressure resulting from the gas generated inside the gas generator. Further, the end plate portion 10 is available in a semi-spherical shape having a curvature radius R and the ratio of the diameter D of the cylindrical portion 9 to the curvature radius R is preferably in the range from 0.3 to 2 and more preferably from 0.9 to 2.

Therefore, the gas generator is made small in size. As explained above, the end plate portion is available in a semi-spherical shape or a semi-oval shape, thereby making it possible to remove a part on which pressure of the gas generated in the combustion chamber 5 concentrates. Therefore, the gas generator can be constituted [[in]] of a smaller number of parts, rendering the deformation of the housing to a minimum during gas generation, even if simply constructed.

Please amend paragraph [0031] as follows:

[0031]

The inner cylindrical body 16 is fixed to an igniter holder 19 by crimping or any other appropriate method. Then, the inner cylindrical body 16 is fixed to the initiator shell 1 through fixture of the igniter holder 19 to the end plate portion 14 by welding or any other appropriate method. Further, the inner cylindrical body 16 is [[in]] of a long-cylindrical shape extending from one end of the combustion chamber 5 formed inside the housing 3 to an approximate center of the combustion chamber 5. A plurality of enhancer openings 15 are formed in the periphery in a long-opening shape along the axial direction of the inner cylindrical body 16. These enhancer openings 15 are formed in a zigzag form so that those disposed adjacent to each other along the axial direction of the inner cylindrical body 16 are not provided in parallel as shown in FIG. 1. Therefore, a heat current spouted from the igniter 7 is effectively spouted into the whole part of the combustion chamber 5. Further, these enhancer openings 15 may be ~~available in~~ of a round-opening shape, in addition to the long-opening shape. They do not need to be provided in a zigzag form.

Please amend paragraph [0035] as follows:

[0035]

Fuels which can be utilized include, for example, nitrogen-containing compounds. Nitrogen-containing compounds include one or more types of mixtures selected from triazole derivatives, tetrazole derivatives, guanidine derivatives, azodicarbon amide derivatives, hydrazine derivatives, urea derivatives and ammine complexes.

Please amend paragraph [0039] as follows:

[0039]

These nitrogen-containing compounds in the gas generants 4 are different in mixture ratio, depending on the number of carbon atoms, hydrogen atoms and other atoms to be oxidized in the molecular formulae, preferably in the range from 20% by weight to 70% by weight and in particular preferably in the range from 30% by weight to 60% by weight. Further, the nitrogen-containing compounds are different in absolute value of the mixture ratio, depending on types of oxidizer to be added to gas generants. However, the concentration of trace ~~amount~~ amounts of CO in generated gas will increase where an absolute value of the mixture ratio in the nitrogen-containing compounds is greater than a total oxidation theoretical amount. In contrast, the concentration of trace amount NOx in the generated gas will increase where an absolute value of the mixture ratio in the nitrogen-containing compounds is equal to or lower than a total oxidation theoretical amount. Therefore, most preferable such is in a range in which both of them are optimally balanced.

Please amend paragraph [0040] as follows:

[0040]

Preferable oxidizers include those at least selected from one type of cation-containing nitrates, nitrites and perchlorates selected from alkaline metals, alkaline earth metals, transition metals and ammonium. Also usable are oxidizers other than nitrates, namely, nitrites and perchlorates which are frequently used in an airbag inflator field. However, they will decrease in terms of the number of oxygen atoms in the nitrite molecules as compared with nitrate molecules or may reduce the production of fine powder mist easily discharged outside the bag, and therefore nitrates are preferable. Nitrates include, for example, sodium nitrate, potassium nitrate, magnesium nitrate, strontium nitrate, phase stable ammonium nitrate and basic copper nitrate. Preferable are strontium nitrate, phase stable ammonium nitrate and basic copper nitrate.

Please amend paragraph [0043] as follows:

[0043]

A mixture ratio of binders is preferably in the range from 0% by weight to 10% by weight for press molding and from 2% by weight to 15% by weight for extrusion molding. Molded articles will increase in breaking strength with an increase in [[an]] the added quantity of binders. However, when the number of carbon atoms and hydrogen atoms in the compositions is increased and the concentration of trace amount CO gas which is an incomplete combustion product of carbon atom is elevated, the quality of generated gas is affected. It is preferable to use binders in a minimum quantity because they may inhibit burning of gas generants. In particular, [[a]] the quantity of binders exceeding 15% by

weight may require a relatively larger quantity of oxidizers to reduce a relative percentage of fuels, thereby making it difficult to provide a practicable gas generator system.

Please amend paragraph [0050] as follows:

[0050]

Thereafter, the extrusion-molded hollow cylindrical molded articles are subjected to a pressing treatment at a uniform interval to obtain cylindrical molded articles with both ends closed. Usually, the hollow cylindrical molded articles are subjected to pressing treatment at a uniform interval and then cut off by folding them at the respectively closed recesses. Thereafter, they are dried at two stages, namely, usually in the range from 50°C to 60°C for 4 hours to 10 hours and then, usually in the range from 105°C to 120°C for 6 hours to 10 hours, thereby making it possible to obtain cylindrical shaped gas generants which have a space therein, with the ends closed. The thus obtained gas generants are usually in the range from 1.5mm to 8mm in length, preferably from 1.5mm to 7mm and more preferably from 2mm 6.5mm.

Please amend paragraph [0057] as follows:

[0057]

Further, the enhancers 17 are available in the shape of a grain, granule, pellet (corresponding to a form of tablets generally found in drugs), circular column, tube or disk, etc. The tubular shape includes, for example, a cylindrical shape, and the cylindrical shape includes, for example, a single-pore cylindrical shape and a porous cylindrical shape. They are manufactured by utilizing a powder mixture, granulation method (granulation by agitation, granulation by spray drying, extrusion granulation, rolling granulation and compression granulation) and tablet compression.

Please amend paragraph [0063] as follows:

[0063]

In addition, the gas discharge openings 8a and 8b are formed at a different opening diameter and are closed with rupture members which are different in terms of strength, thereby making it possible to provide stable gas generation characteristics at various temperature ranges such as normal temperature, low temperature and high temperature ranges.

Please amend paragraph [0067] as follows:

[0067]

In the present invention the following symbols and reference numbers are utilized:

D: Diameter

H: Bottom distance

h: Length of cylindrical portion

d: Distance between openings

D1: Small opening diameter

D2: Large opening diameter

1: Initiator shell

2: Closure shell

3: Housing

4: Gas generants

5: Combustion chamber

6: Filter member

7: Igniter

8a: Small-diameter gas discharge opening

8b: Large-diameter gas discharge opening

9: Cylindrical portion

10: End Plate portion

11: Rupture member

12: Flange portion

13: Cylindrical portion

14: End plate portion

15: Enhancer opening

16: Inner cylindrical body

17: Enhancer

18: Squib

19: Igniter holder

20, 21: Presser member

22: Cushion member

30: Gas generator

Please amend the Abstract at page 39 as follows: